

## CLAIMS

1. A system for compensating for timing violations of a multiplex of at least two media packet streams, the system comprises:

a transmitter, operable to receive the multiplex, to associate transmitter timing information to media packets that belong to the multiplex, and to transmit the media packets and the associated transmitter timing information towards a receiver, over a timing violation inducing communication channel; whereas the at least two media packet streams are associated with multiple time bases; and

a receiver, operable to receive the transmitter timing information and the media packets, and to provide at least one timing violation compensated media packet stream in response to the transmitter timing information.

2. The system according to claim 1 further comprises a decoder for decoding the at least one timing violation compensated media packet stream.

3. The system of claim 1 wherein the transmitter comprises a transmitter time base generator for generating the transmitter timing information.

4. The system of claim 3 wherein the receiver comprises a phased lock loop (PLL) for reconstructing the transmitter time base.

5. The system of claim 3 wherein the transmitter time base generator is capable of generating a transmitter time base without synchronizing to any to time bases associated with the media packet streams.

6. The system of claim 1 wherein the transmitter is operable to encapsulate said media packets and the transmitter timing information in a communication channel format packets.

7. The system of claim 6 wherein the communication channel format packets does not comprise RTP compliant headers.

8. The system of claim 6 wherein the transmitter is operable to include the transmitter timing information within a communication channel format packet header.

9. The system according to claim 1 wherein the timing violation inducing communication channel is capable of conveying packets that are compliant with at least

one communication protocol that is selected from the list consisting of: Ethernet; Fast Ethernet; Gigabit Ethernet; TCP/IP; RTP; and UDP/IP.

10. The system of claim 1 wherein the receiver comprises:

a receiving end communication interface, connected to a splicer, wherein said receiving end communication interface receives said communication channel format packets from the timing violation inducing communication channel, wherein said receiving end communication interface provides said communication channel format packets to said splicer; and

wherein the splicer is capable of extracting the transmitter timestamp and to provide it to a receiver PLL and of extracting the media packets.

11. The system of claim 1 wherein at least one media stream packet is MPEG compliant.

12. A system for reducing jitter of a multiple program transport stream, the system comprises:

a transmitter, operable to receive the multiple program transport stream from a low jitter communication channel, to associate a transmitter timing information to the packets of the multiple program transport stream, and to transmit the packets of the multiple program transport stream and the associated transmitter timing information over a high jitter communication channel towards a receiver; and

a receiver, coupled to the transmitter over the high jitter communication channel, the receiver is operable to receive the transmitter timing information and the packets of the multiple program transport stream, and to provide at least one low jittered program in response to the transmitter timing information.

13. The system according to claim 13 further comprising a decoder for decoding the at least one program.

14. The system of claim 13 wherein the transmitter comprising a transmitter time base generator for generating the transmitter timing information.

15. The system of claim 14 wherein the receiver comprises a phased lock loop (PLL) for reconstructing the transmitter time base.

16. The system of claim 14 wherein the transmitter time base generator is capable of generating a transmitter time base without synchronizing to any of the different time bases.
17. The system of claim 12 wherein the receiver comprises: a receiving end communication interface that receives media packets from the high jittered communication channel and provides the media packets to a splicer; and wherein the splicer is capable of extracting transmitter timing information as well as transport stream packets from the media packets.
18. A method for compensating for timing violations of a multiplex of at least two media packet streams, the method comprising the steps of:
- (a) receiving the multiplex;
  - (b) associating transmitter timing information to media packets that belong to the multiplex;
  - (c) transmitting the media packets and the associated transmitter timing information towards a receiver, over a timing violation inducing communication channel; whereas the at least two media packet streams are associated with different time bases;
  - (d) receiving the transmitter timing information and the media packets;  
and
  - (e) providing at least one timing violation compensated media packet stream in response to the transmitter timing information.
19. The method of claim 18 further comprising a step of decoding the at least one timing violation compensated media packet stream.
20. The method of claim 18 wherein the step of associating is preceded by a step of generating the transmitter timing information.
21. The method of claim 20 wherein the step of generating does not involve synchronizing to a time base associated with any of the media packet streams.
22. The method of claim 18 wherein the step of providing comprises a step of reconstructing a transmitter time base from the transmitter timing information.

23. The method of claim 18 further comprising a step of converting media packets of the multiplex to communication channel format packets; whereas the communication channel format packets comprise the transmitter timing information.
24. The method of claim 23 wherein the communication channel format packets do not comprise RTP compliant headers.
25. The method according to claim 18 wherein the timing violation inducing communication channel is capable of conveying packets that are compliant with at least one communication protocol that is selected from the list consisting of: Ethernet; Fast Ethernet; Gigabit Ethernet; TCP/IP; RTP; and UDP/IP.
26. The method of claim 18 wherein at least one media stream packet is MPEG compliant.
27. The method of claim 18 wherein the multiplex is received over a low jitter communication channel.